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(71) Applicant (for all designated States except US): **BAXTER INTERNATIONAL INC.** [US/US]; ONE BAXTER PARKWAY, DEERFIELD, IL 60015 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **BARRETT, Rabinow, E.** [US/US]; 9119 Tripp Avenue, Skokie, IL 60076 (US). **WERLING, Jane** [US/US]; 605 South Highland Avenue, Arlington Heights, IL 60005 (US). **KONKEL, Jamie, Teresa** [US/US]; 835 Game Trail, Apt. 303, Lakemoor, IL 60050 (US). **DOTY, Mark, J.** [US/US]; 610 Kenilworth Street, Grayslake, IL 60030 (US). **REBBECK, Christine, L.** [US/US]; 525 Eagle Ridge Lane, Algonquin, IL 60102 (US).

(74) Agents: **MAYO, Michael, C.** et al.; Baxter International Inc., One Baxter Parkway, Deerfield, Illinois 60015 (US).

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(54) Title: **SOLID PARTICLES COMPRISING AN ANTICONVULSANT OR AN IMMUNOSUPPRESSIVE COATED WITH ONE OR MORE SURFACE MODIFIERS**

(57) Abstract: This invention pertains to the formulation of small-particle suspensions of anticonvulsants, particularly carbamazepine, for pharmaceutical use. This invention also pertains to the formulation of a small-particle suspensions of immunosuppressive agents, particularly cyclosporin, for pharmaceutical use. The particles are coated with one or more surface modifiers.



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# INTERNATIONAL SEARCH REPORT

International Application No  
PCT/US2004/015621

A. CLASSIFICATION OF SUBJECT MATTER  
IPC 7 A61K9/16 A61K31/55 A61K38/13 A61K9/14

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 A61K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, PAJ, WPI Data, BIOSIS, EMBASE

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 98/31346 A (MASSACHUSETTS INST TECHNOLOGY ; PENN STATE RES FOUND (US)) 23 July 1998 (1998-07-23)  claims 1-24 page 8, line 1 - page 22, line 31	1,2,5,6, 9-12,15, 16,29, 30,33, 34,36
X	US 6 387 409 B1 (KHAN SHEEMA ET AL) 14 May 2002 (2002-05-14)  claim 1 table 2 column 2, line 8 - column 3, line 59  -/-	1,2, 5-10,18, 19, 23-26, 29-34, 42,43,47

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

\* Special categories of cited documents:

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\*P\* document published prior to the international filing date but later than the priority date claimed

\*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

\*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

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\*Z\* document member of the same patent family

Date of the actual completion of the international search

21 October 2004

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Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

Schifferer, H

# INTERNATIONAL SEARCH REPORT

International Application No  
PCT/US2004/015621

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 99/49846 A (RTP PHARMA INC) 7 October 1999 (1999-10-07)  claims 1-10 page 3, line 29 - page 5, line 28	1,2, 5-10,18, 19, 23-26, 29-34, 42,43,47
X	US 2003/003155 A1 (REBBECK CHRISTINE L ET AL) 2 January 2003 (2003-01-02)  claims 1-105 examples 6-9 paragraph '0035! - paragraph '0061!	1-8, 12-16, 18-32, 36-40, 42-47
X	WO 00/61108 A (BONVOISIN CECILE ISABELLE ; LAROCHÉ CHRISTOPHE (FR); GLAXO GROUP LTD ( ) 19 October 2000 (2000-10-19) claims 1-14 page 4, line 26 - page 6, line 27	25,26, 28,36, 42,43
X	WO 99/53901 A (LOUIS OLIVIER ; LLORCA NATHALIE (FR); ROSIER PATRICK (FR); CAVAILLON P) 28 October 1999 (1999-10-28) page 3, line 23 - page 7, line 18 examples 1-5	25-28, 33,36, 37,42,43
X	WO 92/08447 A (GLAXO GROUP LTD) 29 May 1992 (1992-05-29) claims 1-8 page 3, line 25 - page 4, line 24 example 2	25,26, 28,36

## INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US2004/015621

### Box II Observations where certain claims were found unsearchable (Continuation of Item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

### Box III Observations where unity of invention is lacking (Continuation of Item 3 of first sheet)

This International Searching Authority found multiple inventions in this International application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☒ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

**FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210**

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-24

A pharmaceutical composition of an anticonvulsant comprising solid particles of the agent coated with one or more surface modifiers, wherein the particles have an average effective particle size of 10 nm-100 micrometers.

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2. claims: 25-47

A pharmaceutical composition of an immunosuppressive comprising solid particles of the agent coated with one or more surface modifiers, wherein the particles have an average effective particle size of 10 nm - 100 micrometers

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Information on patent family members

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